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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,429	09/17/2004	Terrence M. Fulkerson	11694/04384	5428
27483 7590 02/20/2008 CALFEE, HALTER & GRISWOLD, LLP 800 SUPERIOR AVENUE SUITE 1400 CLEVELAND, OH 44114				
EXAMINER				
BERTHEAUD, PETER JOHN				
ART UNIT		PAPER NUMBER		
3746				
MAIL DATE		DELIVERY MODE		
02/20/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/711,429

**Applicant(s)**

FULKERSON ET AL.

**Examiner**

PETER J. BERTHEAUD

**Art Unit**

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 January 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4,8,9,17-20 and 27-31 is/are pending in the application.  
4a) Of the above claim(s) 2,3,5-7,10-16 and 21-26 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,3,4,8,9,17-20 and 27 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 17 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Final Drawing Review (PTO-849)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This Office Action is in response to amendments filed 1/9/2008. Due to new grounds of rejection this action has been made Non Final.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4, 17-20, and 27-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Feygin 5,273,406.

Feygin discloses an apparatus for the conveyance of powdered material comprising a pump chamber (actuating segment 1, 8, and actuating segment 2) defined in part by a gas permeable member 2; a first pinch valve (actuating segment 1) and a second pinch valve (actuating segment 2) wherein each said pinch valve comprises a member 1 that defines part of a flow path for material through the pump, and wherein said pinch valve members open and close in response to pneumatic pressure applied thereto (see col. 4, lines 59-61); wherein during pump operation material flows into said chamber under negative pressure and material flows out of said chamber under positive pressure (see col. 4, lines 59-68 and col. 5, lines 1-21); said first and second pneumatic pinch valves being operable to control flow of material into and out of said chamber.

Feygin further discloses that first and second pinch valves can be separately actuated (see col. 5, lines 21-24).

Feygin discloses an apparatus for the conveyance of powdered material comprising a pump chamber (actuating segment 1, 8, and actuating segment 2) defined in part by a gas permeable member 2 wherein during pump operation material flows into said pump chamber under negative pressure and material flows out of said pump chamber under positive pressure (see col. 4, lines 59-68 and col. 5, lines 1-21); a first pinch valve (actuating segment 1) and a second pinch valve (actuating segment 2) wherein each said pinch valve comprises a member 1 that defines part of a flow path for material through the pump, and wherein said pinch valve members open and close in response to pneumatic pressure applied thereto; said first and second pneumatic pinch valves being operable to control flow of material into and out of said pump chamber. Feygin further discloses that the pinch valves can be independently actuated open and closed with respect to each other (see col. 5, lines 21-24). Feygin also discloses that the pinch valves can be independently actuated open and closed with respect to application of negative and positive pressure to said pump chamber (see col. 5, lines 21-24). Feygin further discloses that the pinch valves can be independently actuated open and closed with respect to each other (see col. 5, lines 21-24).

Feygin discloses an apparatus for the conveyance of powdered material comprising a pump chamber (actuating segment 1, 8, and actuating segment 2) defined in part by a gas permeable member 2 disposed in a pressure chamber; a first pinch valve (actuating segment 1) and a second pinch valve (actuating segment 2) wherein

each said pinch valve comprises a member 1 that defines part of a flow path for material through the pump; wherein during pump operation material flows into said chamber under negative pressure and material flows out of said chamber under positive pressure (see col. 4, lines 59-68 and col. 5, lines 1-21); wherein flow rate of material from the pump could be controlled as a function of duration time of said negative pressure.

Feygin discloses an apparatus for the conveyance of powdered material comprising a pump chamber (actuating segment 1, 8, and actuating segment 2) defined in part by a gas permeable member 2 disposed in a pressure chamber; wherein during pump operation material flows into said pump chamber under negative pressure and material flows out of said pump chamber under positive pressure during a pump cycle (see col. 4, lines 59-68 and col. 5, lines 1-21); wherein flow rate of material from the pump could be adjustable independent of the pump cycle duration. Feygin further discloses a suction pinch valve (actuating segment 1) and a delivery pinch valve (actuating segment 2) that control flow of material in and out of the pump chamber respectively, said pinch valves having open/closed times that are separately controllable from the pump cycle time (see col. 5, lines 21-24). Feygin also discloses a control circuit (see col. 4, lines 59-61 and col. 5, lines 21-24) that may adjust duration of time that the negative pressure is applied to the pressure chamber to adjust flow rate.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feygin 5,273,406 in view of Ray, Jr. 3,951,572.

Feygin discloses the invention as discussed above as well as a second pump chamber (actuating segment 3, 8, and actuating segment 4) and third (actuating segment 3) and fourth (see actuating segment 4) pneumatic pinch valves. Feygin further discloses that the first, second, third and fourth valves can be separately actuated. However, Feygin does not teach the following claimed limitations taught by Ray, Jr.

Ray, Jr. teaches an apparatus for pumping comprising first and second pump chambers 10, 10', pneumatic pinch valves 42', 42", and a common outlet 14. Ray, Jr. further teaches that material is transferred to a common outlet 14 by alternate flow through said first and second pump chambers (see abstract).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the pumping assembly of Feygin by placing the pumping chambers in parallel and having them pump to a common outlet in order to create a constant flow of material (see col. 1, lines 44-45).

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER J. BERTHEAUD whose telephone number is (571)272-3476. The examiner can normally be reached on M-F 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/  
Supervisory Patent Examiner, Art  
Unit 3683

PJB  
/Peter J Bertheaud/  
Examiner, Art Unit 3746